## **AMENDMENTS TO THE SPECIFICATION**

On page 1, line 1, of the specification please replace the title as following amended title:

METHOD FOR IDENTIFYING CHARACTERISTICS OF MOLECULES <u>USING</u> <u>NUCLEOTIDES</u>

Please replace the paragraphs spanning page 3, line 32, to page 4, line 6, of the specification with the following:

Figure 1 is a schematic illustration of the "units" of sequence that represent individual bases on a target polynucleotide (Sequences labeled as "Natural DNA polymer are provided as SEQ ID NOs: 12-13; Sequences labeled as "Design Polymer" are provided as SEQ ID NOs: 5-6);

Figure 2 is a schematic illustration of the apparatus used to detect fluorescent signals generated during the method;

Figure 3 is a schematic illustration of the results obtained during the polymerase extension reaction (template sequences in Figure 3 c) are provided as SEQ ID NOs: 7-8; the polymers generated after polymerase extension are provided as SEQ ID NOs: 14-15); and

Figure 4 is a schematic illustration of the method steps resulting in the conversion of the target polynucleotide into a defined second polynucleotide.

Docket No.: 30986/41550

Application No. 10/553,505 Amendment dated September 23, 2008 Reply to Office Action of June 23, 2008

Please replace the paragraphs spanning page 6, lines 1-9, with the following amended paragraph (underlining of the "A" and "G" positions in the sequences is found in the original specification as filed):

Odd numbered template sequence:

"0": TTTTTTA(CCC) (SEQ ID NO. 1)

"1": TTTTTTG(CCC) (SEQ ID NO. 2)

Even numbered template sequence:

"0": CCCCCCA(TTT) (SEQ ID NO. 3)

"1" : CCCCCCG(TTT) (SEQ ID NO. 4)

Please replace the paragraph on page 12, lines 13-22 with the following amended paragraph:

In a preferred embodiment, the label is a fluorescent moiety. Many examples of fluorophores that may be used are known in the prior art, and include:

Alexa dyes (MOLECULAR PROBES<sup>TM</sup> Molecular Probes)

BODIPY<sup>TM</sup> dyes (MOLECULAR PROBES<sup>TM</sup> Molecular Probes)

Cyanine dyes (<u>AMERSHAM BIOSCIENCES</u><sup>TM</sup> Amersham Biosciences Ltd.)

Tetramethylrhodamine (PERKIN ELMER<sup>TM</sup> Perkin Elmer, MOLECULAR PROBES<sup>TM</sup>

 $\underline{Molecular\ Probes},\,\underline{ROCHE^{TM}}\ Roche\ Diagnostics)$ 

Coumarin (PERKIN ELMER<sup>TM</sup> Perkin Elmer)

<u>TEXAS RED<sup>TM</sup></u> Texas Red (<u>MOLECULAR PROBES<sup>TM</sup></u> Molecular Probes)

 $Fluorescein \ (\underline{PERKIN} \ ELMER^{TM} \ \underline{Perkin} \ Elmer, \ \underline{MOLECULAR} \ PROBES^{TM} \ \underline{Molecular}$ 

Probes, <u>ROCHE<sup>TM</sup></u> Roche Diagnostics)

Application No. 10/553,505 Amendment dated September 23, 2008

Reply to Office Action of June 23, 2008

Please replace the paragraph beginning on page 14, line 24 with the following amended paragraph:

Docket No.: 30986/41550

A target polynucleotide is converted into a series of second polynucleotides using the methods disclosed in WO-A-00/39333. Four defined second polynucleotides are used to represent 0 and 1 units in both even and odd numbered positions. The 0- and 1- units have the sequence TTTTTTACCC (SEQ ID NO: 1) and TTTTTTGCCC (SEQ ID NO: 2), respectively, in odd numbered positions, while their codings are CCCCCCATTT (SEQ ID NO: 3) and CCCCCCGTTT (SEQ ID NO: 4), respectively, in even numbered positions.